Nanostructured materials

Volume 3 1993 Cancun Proceedings Contents RW SIEGEL 1 Nanostructured Materials--Mind over Matter BH KEAR AND LE MCCANDLISH 19 Chemical Processing and Properties of Nanostructured WC-Co Materials S EIDELMAN AND A ALTSHULER 31 Synthesis of Nanoscale Materials using **Detonation of Solid Explosives** MJ MAYO AND DC HAGUE 43 Porosity-Grain Growth Relationships in the Sintering of Nanocrystalline Ceramics A BERGER AND H HOFMEISTER 53 Formation and Optical Properties of Prolate Silver Particles in Glasses DC HAGUE AND MJ MAYO 61 The Effect of Crystallization and a Phase Transformation on the Grain Growth of Nanocrystalline Titania RK SADANGI, BH KEAR AND 69 Sintering of Nanograined Fe-(Fe,Mo)₆C Powder Compacts LE McCandlish Modifications of the Sol-Gel Method for J ZABICKY, L ZEVIN, E SIMON, A SHNEIVAIS, 77 the Preparation of Ultrafine/Ultrapure U SASON, L ABRAMOVICH, G ONDRACEK, M SCHÜLLER AND M FREDEL Ceramic Oxide Powders--Properties of the Powders and Microstructure of the Derived Ceramic Bodies Matrix-Mediated Synthesis and RF ZIOLO, EP GIANNELIS AND RD SHULL 85 Properties of Nanostructured Materials Thermodynamic Properties and Phase C MOELLE AND H-J FECHT 93 Stability of Nanocrystalline Metals and **Hydrides G** THOMAS 101 Electron Microscopy of Nanostructured Materials W KRAKOW 115 Electron Microscope Studies of Vapor Deposited Materials: Nucleation, Epitaxial Growth and Surface Topography Novel Quantum Hall Phenomena in G KIRCZENOW, BL JOHNSON, C BARNES 125

Arrays of Quantum Dots

AND R AKIS

H HOFMEISTER AND T JUNGHANNS	137	From Amorphous to Nanocrystalline Germaniumthe Role of Twinning Studied by High Resolution Electron Microscopy
C SURYANARAYANA AND FH FROES	147	Nanocrystalline Structures from Amorphous Precursors
I Bakonyi, E Tóth-Kádár, T Tarnóczi, LK Varga, Á Cziráki, I Gerocs and B Fogarassy	155	Structure and Properties of Fine- grained Electrodeposited Nickel
TH Cross and MJ Mayo	163	Ceramic-Ceramic Diffusion Bonding using Nanocrystalline Interlayers
LF FONSECA AND I BALBERG	169	Calculation of the Flicker Noise in Metal-Insulator Composites using a Mean-Field Theory
Z Fu and WL Johnson	175	Nanophase Zr-Al Solid Solutions by Mechanical Alloying at Elevated Temperatures
C Jackschath, L König, I Rabin, W Schulze and B Tesche	181	Observation of Size-Dependent Coalescence of Ag Clusters
VI Zubov	189	Surface Properties of Solids and Size Effects in Nanophases
RS ROSEN, DG STEARNS, ME KASSNER, J-I KOIKE, Y CHENG AND SP VERNON	195	Kinetics of Interlayer Growth and Changes in Residual Elastic Strain during Annealing of Mo/Si Multilayers
RAD Mackenzie, A Cerezo and GDW Smith	203	Characterization of Nanometer-Scale Compositional Variations using Field Ion Microscopy and the Position Sensitive Atom Probe
P SANTIAGO, L RENDÓN, A GÓMEZ-CORTÉZ, A CAMPERO AND A VÁZQUEZ	211	Characterization of the Transition Xerogel-Glass of Materials Prepared with Modified TEOS: the Case of Cu ²⁺
P SINHA AND GS COLLINS	217	Indium Nanocrystals Studied by Perturbed Angular Correlations
R Würschum, G Soyez and H-E Schaefer	225	Phase Transformation and Interface Structure of Nanocrystalline ZrO ₂
SA SETHI AND AR THÖLÉN	231	Quantitative Evaluation of Electron Micrographs from Small Particles
AM VIANO, PC GIBBONS, WE BUHRO, SC GOEL AND MA MATCHETT	239	Structural Characterization of Phosphide and Related Semiconductor

DG WALMSLEY, PA CAMPBELL, KW SMITH AND RE SOMEKH	245	STM Evidence for Anisotropic Diffusive Decay of Nanofeatures on Au (111) Surfaces
J Xu, XK Sun, AQ He, WD WEI AND WX CHEN	253	Stability in Air of Ultrafine Particles of Chromium
J WEISSMÜLLER	261	Alloy Effects in Nanostructures
JY YING, LF CHI, H FUCHS AND H GLEITER	273	Surface Morphology of Nanocrystalline Titanium Oxide by AFM
CJB FORD, PJ SIMPSON, M PEPPER, D KERN, JEF FROST, DA RITCHIE AND GAC JONES	283	Coulomb Blockade in Small Quantum Dots
W ANDREONI	293	Small Semiconductor Clusters and Fullerenes: Structural and Electronic Properties from Ab-Initio Molecular Dynamics
P STAMPFLI AND KH BENNEMANN	301	Unified Model for the Electronic and Atomic Shell Structures of Metallic Clusters
MR FITZSIMMONS, JA EASTMAN, RA ROBINSON, AC LAWSON, GH KWEI, KE SICKAFUS, MA NASTASI AND E BURKEL	311	Magnetic Structures of Nanometer Scale Dy, Cr and Ni
H TERRONES AND AL MACKAY	319	Hypothetical Curved Graphite
P ALVARADO, J DORANTES-DÁVILA AND H DREYSSÉ	331	Magnetism on Small Vanadium Clusters
M Andersson, JL Persson and A Rosén	337	Oxidation of Small Transition Metal Clusters
R BERNDT, JK GIMZEWSKI AND RR SCHLITTLER	345	Photon Emission from Nanostructures in an STM
E COTA, JV JOSÉ AND F ROJAS	349	Electronic Transmission through Time- Periodic Oscillating Barriers
A VEGA, LC BALBÁS, J DORANTES-DÁVILA, AND GM PASTOR	359	Magnetic Properties of Small 3-d Transition Metal Clusters: Role of the sp-Electrons and spd-Hybridization
PJ JENSEN, H DREYSSÉ AND KH BENNEMANN	365	Structural Dependence of the Ordering Temperature on Nanostructured Magnetic Materials
LT WILLE AND H DREYSSÉ	371	Aggregation, Deposition and Fragmentation of Transition Metal Clusters

GE FOUGERE, JR WEERTMAN AND RW SIEGEL	379	On the Hardening and Softening of Nanocrystalline Materials
S CARNALLA, A POSADA AND IL GARZÓN	385	Vibrational Properties of Nickel and Gold Clusters
GN GLAVEE, KJ KLABUNDE, CM SORENSEN, GC HADJIPANAYIS, ZX TANG AND L YIPING	391	Preparation of Magnetic Fine Particles by Borohydride Reduction
A TSOUKATOS, H WAN, GC HADJIPANAYIS AND KM UNRUH	399	Giant Magnetoresistance Studies in (Co,Fe)-Ag Films
M Li, R Birringer, WL Johnson and RD Shull	407	Nanocrystalline Fe-Si Phase by Mechanical Attrition and its Soft Magnetic Properties
JM MONTEJANO-CARRIZALES AND JL MORÁN-LÓPEZ	413	Changes in the Equilibrium Shape of Bimetallic Nanostructures Induced by Chemisorption
WI KARAIN, LV KNIGHT, DD ALLRED AND A REYES-MENA	419	The Use of Sharp Silicon Tips as Photocathodes and Electron Sources for X-ray Generation
KM UNRUH, JF SHEEHAN, TE HUBER AND CA HUBER	425	Size Dependent Melting and Freezing Behavior of In Metal Confined in Porous Glasses
P ALLIA, M BARICCO, E BONETTI, L DEL BIANCO, P TIBERTO, G VALDRÉ AND F VINAI	433	A Study of the Amorphous-to-Nano- crystalline Transformation in Fe _{73.5} Cu ₁ Nb ₃ Si _{13.5} B ₉ through Combined Measurements of Electrical Resistivity, Mechanical Spectroscopy and TEM
EE VOGEL, J VALDÉS AND J CARTES	441	Ising Spins with Mixed Exchange Interactions on Regular Polyhedra
CW WHITE, DK THOMAS, DK HENSLEY, RA ZUHR, JC McCALLUM, A POGANY, RF HAGLUND, RH MAGRUDER AND L YANG	447	Colloidal Au and Ag Precipitates formed in Al ₂ O ₃ by Ion Implantation and Annealing
BS MURTY, M MOHAN RAO AND S RANGANATHAN	459	Nanocrystalline Phase Formation and Extension of Solid Solubility by Mechanical Alloying in Ti-Based Systems
F Aguilera-Granja, J Dorantes-Dávila, JL Morán-López and J Ortíz-Saavedra	469	Electronic Structure of Some Semi- conductor Fullerenes
G-C Joo, SP CHEN AND T TSAKALAKOS	479	Molecular Dynamics of Nanoscale Layered Structures
	499	AUTHOR INDEX, VOLUME 3, 1993
	501	Abstracts of papers presented at the 1st International Conference on Nanostructured Materials that appeared in previous issues of Nanostructured Materials

